MONSANTO

IDEAS BIG ENOUGH FOR A

GROWING WORLD

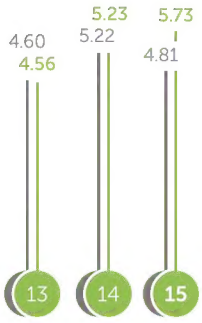
2015 Annual Report

THE RIGHT VISION CAN UNLOCK A WORLD OF OPPORTUNITY

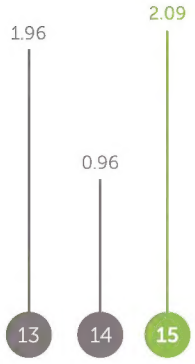
WE'VE MADE A BUSINESS OF PURSUING BIG IDEAS

Today, we aren't just dreaming—we're bringing innovation to life. Now more than ever, we're positioned to build upon initiatives, ideas and advances to help make a balanced meal more accessible to everyone, and doing it sustainably. Yet we know we can't do it alone. We're collaborating with others to tackle agriculture's biggest challenges, helping to create a world of opportunity that can build a sustainable future for our business, our customers and our global community.

NET SALES
In billions of dollars,
for years ended Aug. 31



EARNINGS PER SHARE
In dollars, for years ended Aug. 31
As Reported Ongoing



FREE CASH FLOW
In billions of dollars,
for years ended Aug. 31

2015 Financial Highlights

(in millions, except per share amounts)

Years ended Aug. 31	2015	2014	2013	% Change 2015 vs. 2014
OPERATING RESULTS				
Net Sales	**$ 15,001**	$ 15,855	$ 14,861	(5%)
EBIT[1]	**$ 3,500**	$ 3,952	$ 3,460	(11%)
Net Income Attributable to Monsanto Company	**$ 2,314**	$ 2,740	$ 2,482	(16%)
Diluted Earnings per Share[2]	**$ 4.81**	$ 5.22	$ 4.60	(8%)
OTHER SELECTED DATA				
Free Cash Flow[3]	**$ 2,089**	$ 959	$ 1,963	118%
Capital Expenditures	**$ 967**	$ 1,005	$ 741	(4%)
Depreciation and Amortization	**$ 716**	$ 691	$ 615	4%
Diluted Shares Outstanding[2]	**481.4**	524.9	539.7	(8%)

See page 8 for Notes to 2015 Financial Highlights and Charts

Dear Shareowners,

During what has proven to be a challenging year for agriculture and many global industries, your company delivered a solid performance. The results in fiscal year 2015 were possible due to the strength of our core business, cost discipline and our ability to deliver innovative solutions for farmers across crops and geographies.

Leading this strong performance was our global soybean business. We achieved record-setting adoption of Intacta RR2 PRO™ soybeans—securing 15 million acres in South America, a number we expect to double next year. We grew or held share in every major corn market in 2015. We're also seeing rapid adoption of our Climate platform, continued progress in our microbial work through the BioAg Alliance with Novozymes and ongoing demand for technology upgrades across our core products.

We've taken some strategic actions to better prepare our business for the realities of today and the outstanding opportunities ahead of us. Earlier this year, we announced significant investment in our global breeding program and the expected investment at our Luling, Louisiana, manufacturing facility to support future product launches; we've begun actions in several areas of the company to better support our pipeline and increase efficiencies in our operations; and we've demonstrated our commitment to creating and returning value to our shareowners through our accelerated share buyback program.

We've continued our longstanding commitment to collaborating with diverse partners to help solve some of the big challenges facing our planet—investing in numerous community development, education, research and conservation programs such as our partnership to protect monarch butterfly habitats and our efforts to support action on climate change.

On behalf of the board of directors and the employees of Monsanto, thank you for your continued support. The fundamentals of our business are strong. We have a solid portfolio of products, an industry-leading pipeline and see an unwavering demand for innovation. I remain certain that there is no better industry to be in and no company poised for long-term growth like Monsanto with a world of opportunity ahead.

Hugh Grant
Chairman of the Board of Directors and Chief Executive Officer

Board of Directors

PICTURED FROM LEFT TO RIGHT:
Jon R. Moeller
Marcos M. Lutz
Laura K. Ipsen
Robert J. Stevens
Janice L. Fields
Arthur H. Harper
C. Steven McMillan
Hugh Grant
Gwendolyn S. King
David L. Chicoine
Patricia D. Verduin
William U. Parfet
Gregory H. Boyce
George H. Poste

Gregory H. Boyce, 61, is Executive Chairman of Peabody Energy Corporation, the world's largest private-sector coal company and a global leader in sustainable mining, energy access and clean coal solutions. Mr. Boyce joined Peabody Energy in 2003 as president and chief operating officer, became president and chief executive officer in 2006, and became chairman in 2007. Mr. Boyce was elected to the Monsanto board in April 2013 and is a member of the Science and Technology Committee and the Sustainability and Corporate Responsibility Committee. He also serves on the boards of Marathon Oil Corporation, where he chairs the Compensation Committee, and Newmont Mining Corporation.

David L. Chicoine, Ph.D, 68, is president of South Dakota State University, a land grant research institution, and professor of economics. Prior to 2007, he was professor of agricultural economics at the University of Illinois at Urbana-Champaign and held various positions of increasing administrative responsibility with the University of Illinois, most recently as vice president for technology and economic development. Dr. Chicoine was elected to the Monsanto board in April 2009 and is a member of the Science and Technology Committee and the Sustainability and Corporate Responsibility Committee.

Janice L. Fields, 60, is a former president of McDonald's USA, LLC, a subsidiary of McDonald's Corporation, the world's leading global foodservice retailer. She served as president of McDonald's USA from 2010 to 2012, and was executive vice president and chief operating officer from 2006 to 2010. Her career with McDonald's USA spans more than 35 years. Ms. Fields was elected to the Monsanto board in April 2008 and is a member of the Nominating and Corporate Governance Committee, the People and Compensation Committee and the Sustainability and Corporate Responsibility Committee. Ms. Fields also serves on the board of Chico's FAS, Inc.

Hugh Grant, 57, is chairman of the board and chief executive officer of Monsanto. He has worked in agriculture since 1981 and has held a variety of management positions, most recently chairman of the board, president and chief executive officer. Mr. Grant chairs the executive committee. He also serves on the board of PPG Industries, Inc., where he chairs the Nominating and Governance Committee and he serves as PPG's lead director. He has lived and worked in a number of locations outside the United States, including Asia and Europe.

Arthur H. Harper, 59, is managing partner of GenNx360 Capital Partners, a private equity firm focused on business-to-business companies. He served as president and chief executive officer — Equipment Services Division, General Electric Corporation from 2002 to 2005 and executive vice president — GE Capital Services, General Electric Corporation from 2001 to 2002. Mr. Harper was elected to the Monsanto board in October 2006 and is a member of the Audit and Finance Committee and the People and Compensation Committee.

Laura K. Ipsen, 51, is the senior vice president and general manager of The Global Industry Solutions Group for Oracle Corporation. In this capacity, Ms. Ipsen leads a team of global industry experts to develop and deploy industry solutions leveraging Oracle's software and hardware technologies. From 2012 to September 2014, she was the corporate vice president of Microsoft Corporation's Worldwide Public Sector. Previously, she was senior vice president and general manager, Connected Energy Networks, Cisco Systems, Inc. from 2010-2012, and served in leadership roles in the SmartGrid

business unit and Global Policy and Government Affairs Department at Cisco. Ms. Ipsen is a senior fellow of the American Leadership Forum, Silicon Valley. Ms. Ipsen was elected to the Monsanto board in December 2010 and is a member of the Science and Technology Committee and the Sustainability and Corporate Responsibility Committee.

Gwendolyn S. King, 75, is president of Podium Prose, a speakers' bureau. From 1992 to her retirement in 1998, Ms. King was senior vice president, corporate and public affairs, for PECO Energy Company, now Exelon, a diversified utility company. From 1989 through 1992, Ms. King served as the 11th Commissioner of Social Security. Prior to her appointment, she was deputy assistant to the president and director of Intergovernmental Affairs for President Ronald Reagan. Ms. King has served as a director on the Monsanto board since February 2001. She chairs the board's Sustainability and Corporate Responsibility Committee, and she is a member of the Executive Committee, the Nominating and Corporate Governance Committee and the People and Compensation Committee. Ms. King also serves on the board of Lockheed Martin Corporation where she chaired the Ethics and Sustainability Committee until May 2015.

Marcos M. Lutz, 45, has been the Chief Executive Officer of Cosan Ltd. since April 2015. He previously served as Chief Executive Officer of Cosan S.A. Indústria e Comércio from October 2009 to April 2015. Cosan and its subsidiaries engage in the production and sale of sugar and ethanol worldwide, distribution of fuels and lubricants in Brazil, and operation of port and rail logistics. Prior to joining Cosan, Mr. Lutz served as Vice President, Infrastructure and Energy and was also in charge of Hydroelectric Plants, Logistics, Railways and Port Terminals at Companhia Siderurgica Nacional (CSN) from 2003 to 2006. Mr. Lutz was elected to the Monsanto board in 2014 and is a member of the Science and Technology Committee and the Sustainability and Corporate Responsibility Committee.

C. Steven McMillan, 69, is a retired chairman of the board and chief executive officer of Sara Lee Corporation, a global consumer packaged goods company whose brands, during his tenure, included Sara Lee, Hillshire Farm, Earth Grains, Jimmy Dean, Douwe Egberts, Coach, Hanes, Playtex and Champion. He has served as a director on the Monsanto board since June 2000. Mr. McMillan chairs the board's People and Compensation Committee and the Restricted Stock Grant Committee, and he is a member of the Audit and Finance Committee and the Nominating and Corporate Governance Committee.

Jon R. Moeller, 51, is chief financial officer of The Procter & Gamble Company, one of the world's leading consumer products companies. In his 27 years of experience at The Procter & Gamble Company, he has held a variety of positions within the finance and accounting department, including international experience and service as the company's treasurer. Mr. Moeller also serves as a lecturer at the Cornell University Johnson Graduate School of Management. Mr. Moeller was elected to the Monsanto board in August 2011 and is a member of the Audit and Finance Committee and the Nominating and Corporate Governance Committee.

William U. Parfet, 69, is chairman of the board and chief executive officer of MPI Research Inc., an early stage drug development contract research laboratory. He has served as a director on the Monsanto board since June 2000. Mr. Parfet chairs the board's Audit and Finance Committee, and he is a member of the Executive Committee and the People and Compensation Committee. He also serves on the boards of Stryker Corporation where he is lead independent director, and Taubman Centers, Inc.

George H. Poste, Ph.D, D.V.M., 71, is chief executive of Health Technology Networks, a consulting group specializing in the application of genomics technologies and computing in health care. In February 2009, he assumed the post of chief scientist, Complex Adaptive Systems Initiative at Arizona State University. From May 2003 to February 2009, he was director of the Arizona Biodesign Institute at Arizona State University. Dr. Poste is a former member of the Defense Science Board and the Health Board of the U.S. Department of Defense. He is a Fellow of the Royal Society, the Royal College of Pathologists and the U.K. Academy of Medicine and distinguished fellow at the Hoover Institution at Stanford University. Dr. Poste is also a member of the Council on Foreign Relations. He has served on the Monsanto board since February 2003. Dr. Poste chairs the Science and Technology Committee and is a member of the Sustainability and Corporate Responsibility Committee. Dr. Poste also serves on the boards of Exelixis, Inc. and Caris Life Sciences.

Robert J. Stevens, 64, is a retired chairman of the board and chief executive officer of Lockheed Martin Corporation, a firm engaged in the research, design, development, manufacture and integration of advanced-technology systems, products and services. Prior to his retirement, he served as the corporation's chairman from April 2005 to January 2013 and as its chief executive officer from August 2004 through December 2012. He served as executive chairman of the board from January 2013 until January 2014. Previously, he held a variety of increasingly responsible executive positions with the corporation, including president and chief operating officer, chief financial officer, and head of Strategic Planning. In January 2012, he was appointed by President Barack Obama to the Advisory Committee for Trade Policy and Negotiations. Mr. Stevens has served as a director on the Monsanto board since August 2002. He chairs the board's Nominating and Corporate Governance Committee, and he is a member of the Audit and Finance Committee and the Executive Committee and he serves as Monsanto's lead director. Mr. Stevens also serves on the board of United States Steel Corporation.

Patricia D. Verduin, Ph.D, 56, is vice president and chief technology officer of Colgate-Palmolive Company, a global consumer products company. In her role, she leads the development of Colgate's products and technologies, including responsibility for product safety, quality and regulatory matters. She joined Colgate in 2007, first serving as vice president of global research and development before assuming her current role in 2011. Prior to joining Colgate, Dr. Verduin was senior vice president and chief science officer for the Grocery Manufacturers Association, and senior vice president of product quality and development at ConAgra Foods, Inc.

Note: Information is current as of November 20, 2015.

Executive Team

PICTURED FROM LEFT TO RIGHT:
David F. Snively
Michael K. Stern
Nicole M. Ringenberg
Robert T. Fraley
Pierre C. Courduroux
Hugh Grant
Brett D. Begemann
Steven C. Mizell
Janet M. Holloway
Kerry J. Preete
David A. Friedberg
Michael J. Frank

MONSANTO EXECUTIVE OFFICERS

Hugh Grant
Chairman and Chief Executive Officer

Brett D. Begemann
President and Chief Operating Officer

Pierre C. Courduroux
Senior Vice President
and Chief Financial Officer

Robert T. Fraley, Ph.D
Executive Vice President
and Chief Technology Officer

Michael J. Frank
Vice President, Global Commercial

David A. Friedberg
Vice President,
and Chief Executive Officer, Climate

Janet M. Holloway
Senior Vice President, Chief of Staff
and Community Relations

Steven C. Mizell
Executive Vice President, Human Resources

Duraiswami Narain
Vice President and Treasurer

Kerry J. Preete
Executive Vice President, Global Strategy

Nicole M. Ringenberg
Vice President and Controller

David F. Snively
Executive Vice President, Secretary
and General Counsel

Michael K. Stern, Ph.D
Vice President, and President
and Chief Operating Officer, Climate

Note: Information is current as of November 20, 2015.

WE'RE COMMITTED TO A STRONGER, MORE OPEN RELATIONSHIP WITH SOCIETY

There are conversations happening at dinner tables all over the world — discussions about food and where it comes from. We at Monsanto are dedicated to making connections and becoming part of the ongoing conversation about food.

Visit **Discover.Monsanto.com** to learn more about us, including how we partner with farmers around the world to help them have better harvests while using important resources, like water, more efficiently.

Notes to Financial Highlights & Charts

EBIT, ONGOING EPS AND FREE CASH FLOW

The presentations of EBIT, ongoing EPS and free cash flow are non-GAAP financial measures intended to supplement investors' understanding of our operating performance. The notes below define these non-GAAP measures and reconcile them to the most directly comparable financial measures calculated and presented in accordance with GAAP.

1. RECONCILIATION OF EBIT TO NET INCOME

EBIT is defined as earnings (loss) before interest and taxes. Earnings (loss) is intended to mean net income (loss) as presented in the Statements of Consolidated Operations under GAAP. The following table reconciles EBIT to the most directly comparable financial measure, which is net income (loss).

	12 Months Ended Aug. 31		
	2015	2014	2013
EBIT — Total[A]	**$ 3,500**	$ 3,952	$ 3,460
Interest (Income) Expense — Net	**328**	146	80
Income Tax Provision[B]	**858**	1,066	898
Net Income Attributable to Monsanto Company	**$ 2,314**	$ 2,740	$ 2,482

(A) Includes the income from operations of discontinued businesses and non-controlling interest.

(B) Includes the income tax provision from continuing operations, the income tax benefit on non-controlling interest, and the income tax provision on discontinued operations.

2. RECONCILIATION OF EPS TO ONGOING EPS

Ongoing EPS is calculated excluding certain after-tax items which Monsanto does not consider part of ongoing operations. The reconciliation of EPS to ongoing EPS for each period is included in the table below.

	12 Months Ended Aug. 31		
	2015	2014	2013
Diluted Earnings Per Share	**$ 4.81**	$ 5.22	$ 4.60
Items Affecting Comparability:			
Resolution of Legacy Tax Matter	**—**	—	(0.02)
Income on Discontinued Operations	**(0.06)**	(0.03)	(0.02)
Environmental and Litigation Settlements	**0.11**	0.04	—
Restructuring Charges	**0.70**	—	—
Potential SEC Settlements	**0.17**	—	—
Diluted Earnings per Share from Ongoing Business	**$ 5.73**	$ 5.23	$ 4.56

3. RECONCILIATION OF FREE CASH FLOW

Free cash flow represents the total of cash flows from operating activities and investing activities, as reflected in the Statements of Consolidated Cash Flows.

	12 Months Ended Aug. 31		
	2015	2014	2013
Net Cash Provided by Operating Activities	**$ 3,108**	$ 3,054	$ 2,740
Net Cash Required by Investing Activities	**(1,019)**	(2,095)	(777)
Free Cash Flow	**$ 2,089**	$ 959	$ 1,963
Net Cash Required by Financing Activities	**(430)**	(2,259)	(1,485)
Effect of Exchange Rate Changes on Cash and Cash Equivalents	**(325)**	(1)	(93)
Net Increase (Decrease) in Cash and Cash Equivalents	**$ 1,334**	($ 1,301)	$ 385

Caution Regarding Forward-Looking Statements: This Annual Report contains "forward-looking statements," as described in the attached Form 10-K under the caption "Caution Regarding Forward-Looking Statements" on page 2, which are subject to various risks and uncertainties, including, without limitation, the "Risk Factors" beginning on page 8, which could cause actual results to differ materially from those statements. Please refer to those sections of the 10-K for additional information.

Form 10-K

IDEAS BIG ENOUGH FOR
A GROWING WORLD

Shareowner Information

DIVIDEND POLICY

The declaration and payment of quarterly dividends is made at the discretion of Monsanto's board of directors. The dividend policy is reviewed by the board quarterly.

TRANSFER AGENT AND REGISTRAR

To request or send information, contact:
Computershare
PO Box 30170
College Station, TX 77842-3170

TELEPHONE

(888) 725-9529
Toll free within the United States and Canada

(201) 680-6578
Outside the United States and Canada

TELEPHONE FOR THE HEARING IMPAIRED

(800) 231-5469
Toll free within the United States and Canada

(201) 680-6610
Outside the United States and Canada

ON THE INTERNET

If you are a registered shareowner, you can access your Monsanto account online by going to computershare.com/investor.

DIRECT STOCK PURCHASE PLAN

The Investor Services Program allows shareowners to reinvest dividends in Monsanto Company common stock automatically. Shareowners can also purchase common shares through an optional cash investment feature. For more information on the program, contact Computershare at the address above.

NOTICE AND ACCESS DELIVERY

We have elected to take advantage of the Securities and Exchange Commission's rule that allows us to furnish our annual report and proxy materials to shareowners online. We believe electronic delivery will expedite the receipt of materials, while lowering costs and reducing the environmental impact of our annual meeting by reducing printing and mailing of full sets of materials.

CERTIFICATIONS

The most recent certifications by our chief executive officer and chief financial officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002 are filed as exhibits to our Form 10-K. We have also filed with the New York Stock Exchange the most recent Annual CEO Certification, as required by the New York Stock Exchange.

ADDITIONAL SHAREOWNER INFORMATION

Shareowner, financial and other information about Monsanto is available to you free of charge from several sources throughout the year. These materials include quarterly earnings statements, significant news releases, and Forms 10-K, 10-Q and 8-K, which are filed with the U.S. Securities and Exchange Commission.

ON THE INTERNET

You can find financial and other information, such as significant news releases, Forms 10-K, 10-Q and 8-K, and the text of this annual report, on the Internet at Monsanto.com.

BY WRITING

You can also request these materials by writing to:
Monsanto Company — Materialogic
800 North Lindbergh Boulevard
St. Louis, Missouri 63167, U.S.A.

ANNUAL MEETING

The annual meeting of Monsanto shareowners will be held at 1:30 p.m. on Friday, January 29, 2016, at the company's offices at 800 North Lindbergh Boulevard, St. Louis, Missouri. A Notice of Internet Availability of Proxy Materials has been sent to shareowners.

Monsanto was incorporated in 2000 as a subsidiary of Pharmacia Corporation and includes the operations, assets and liabilities that were previously the agricultural business of Pharmacia. With respect to the time period prior to Sept. 1, 2000, references to Monsanto in this annual report also refer to the agricultural business of Pharmacia. Trademarks and service marks owned by Monsanto and its subsidiaries are indicated by special type throughout this publication. All other trademarks are the property of their respective owners. Unless otherwise indicated by the context, references to Roundup and other glyphosate-based herbicides in this report mean herbicides containing the single active ingredient glyphosate; all such references exclude lawn-and-garden products.

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The cover and narrative section of this annual report are printed on paper that contains 100% post-consumer recycled fiber. The financial section is printed on paper that contains 10% post-consumer recycled fiber. By using these papers instead of 100% virgin fibers, we have saved the equivalent of: 136 trees, 64,036 gallons of water, 61 million BTUs of energy, 11,807 lbs of net greenhouse gases wand 4,287 lbs of solid waste.

Source: Environmental impacts estimates were made using the Environmental Paper Network Calculator Version 3.2. For more information visit www.papercalculator.org.

MON
LISTED
NYSE®

Monsanto's stock is traded principally on the New York Stock Exchange.
Our symbol is MON.

MONSANTO

800 North Lindbergh Boulevard | St. Louis, Missouri 63167 U.S.A.
Monsanto.com
Discover.Monsanto.com

MAG15012